NCES
National Center for Education Statistics

the condition of education 2005

INDICATOR 13

International Comparisons of Mathematics Literacy

The indicator and corresponding tables are taken directly from *The Condition of Education 2005.* Therefore, the page numbers may not be sequential.

Additional information about the survey data and supplementary notes can be found in the full report. For a copy of *The Condition of Education 2005*, visit the NCES website (http://nces.ed.gov/pubsearch/pubsinfo.sap?pubid=2005094) or contact ED PUBs at 1-877-4ED-PUBS.

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U.S. Department of Education
Institute of Education Sciences
NCES 2005-094

Academic Outcomes

International Comparisons of Mathematics Literacy

U.S. 15-year-olds performed below the international average of 29 industrialized countries in both mathematics literacy and problem solving in 2003.

The Program for International Student Assessment (PISA) 2003 reports on the mathematics literacy and problem-solving ability of 15-year-olds in 29 participating Organization for Economic Cooperation and Development (OECD) industrialized countries and 11 non-OECD countries. By assessing students near the end of compulsory schooling, PISA provides information about how well prepared students will be for their future as they approach an important transition point for education and work.

U.S. 15-year-olds, on average, scored below the international average for participating OECD countries in combined mathematics literacy, specific mathematics skill areas (space and shape, change and relationships, quantity, and uncertainty), and problem solving (see supplemental table 13-1). In combined mathematics literacy, students in 20 OECD countries and 3 non-OECD countries outperformed U.S. students, while U.S. students outperformed students in 5 OECD countries and 7 non-OECD countries. In problem solving, students in 22 OECD countries and 3 non-OECD countries outperformed U.S. students, while U.S. students outperformed students in 3 OECD countries and 6 non-OECD countries.

The OECD average score of males was greater than that of females in combined mathematics literacy and in each of the four mathematics subscales in 2003 (see supplemental table 13-2). Males outperformed females in two-thirds of the participating countries in combined mathematics literacy; Iceland was the only country where females outperformed males. In the United States, males outperformed females in both combined mathematics literacy and the space and shape subscale. No such sex difference was detected among U.S. 15-year-olds in their performance on the other three subscales. In 33 of the 40 countries, including the United States, there were no performance differences between males and females in problem solving.

The cutoff scores for both the top and bottom 10 percent of U.S. students (the highest and lowest achievers) in combined mathematics literacy were lower than the overall OECD cutoff scores for these percentiles, respectively (see supplemental table 13-3).

NOTE: The OECD average is the average of the national averages of the Organization for Economic Cooperation and Development (OECD) member countries with data available. Because the Program for International Student Assessment (PISA) is principally an OECD study, the results for non-OECD countries are not included in the OECD average. Due to low response rates, data for the United Kingdom are not included in this indicator. Non-OECD countries participating in this assessment are Brazil, Hong Kong-China, Indonesia, Latvia, Liechtenstein, Macao-China, Russian Federation, Serbia and Montenegro, Thailand, Tunisia, and Uruguay. For more information on this study and a description of *mathematics literacy* and *problem solving*, see *supplemental note 5*. For information on differences between PISA and the National Assessment of Educational Progress (NAEP) used in *indicators 9* and *10* and the Trends in International Mathematics and Science Study (TIMSS) used in *indicators 11* and *12*, see http://nces.ed.gov/timss/pdf/naep_timss_pisa_comp.pdf.

SOURCE: U.S. Department of Education, National Center for Education Statistics. (2004). *International Outcomes of Learning in Mathematics Literacy and Problem Solving: PISA 2003 Results from the U.S. Perspective* (NCES 2005–003), table 2. Data from Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), 2003.

FOR MORE INFORMATION:

Supplemental Note 5

Supplemental Tables 13-1, 13-2, 13-3

NCES 2005–112

NCES 2005–107

OECD 2004a, 2004b

INTERNATIONAL MATHEMATICS LITERACY: Average combined mathematics literacy scores of 15-year-olds, by country: 2003

Average score relative to the United States	Country and score					
Significantly higher	Hong Kong-China	550	Switzerland	527	Sweden	509
	Finland	544	Macao-China	527	Austria	506
	Korea	542	New Zealand	523	Germany	503
	Netherlands	538	Australia	524	Ireland	503
	Liechtenstein	536	Czech Republic	516	*OECD average*	*500*
	Japan	534	Iceland	515	Slovak Republic	498
	Canada	532	Denmark	514	Norway	495
	Belgium	529	France	511	Luxembourg	493
Not significantly different	Poland	490	Spain	485	Latvia	483
	Hungary	490	**United States**	**483**		
Significantly lower	Russian Federation	468	Serbia and Montenegro	437	Mexico	385
	Portugal	466	Turkey	423	Indonesia	360
	Italy	466	Uruguay	422	Tunisia	359
	Greece	445	Thailand	417	Brazil	356

International Comparisons of Mathematics Literacy

Table 13-1. Average combined mathematics literacy, subscales, and problem-solving scores of 15-year-old students, by country: 2003

Country	Combined mathematics literacy	Mathematics subscales				Problem-solving
		Space and shape	Change and relationships	Quantity	Uncertainty	
OECD average	**500***	**496***	**499***	**501***	**502***	**500***
OECD countries						
Australia	524*	521*	525*	517*	531*	530*
Austria	506*	515*	500*	513*	494	506*
Belgium	529*	530*	535*	530*	526*	525*
Canada	532*	518*	537*	528*	542*	529*
Czech Republic	516*	527*	515*	528*	500*	516*
Denmark	514*	512*	509*	516*	516*	517*
Finland	544*	539*	543*	549*	545*	548*
France	511*	508*	520*	507*	506*	519*
Germany	503*	500*	507*	514*	493	513*
Greece	445*	437*	436*	446*	458*	449*
Hungary	490	479	495*	496*	489	501*
Iceland	515*	504*	509*	513*	528*	505*
Ireland	503*	476	506*	502*	517*	498*
Italy	466*	470	452*	475	463*	470
Japan	534*	553*	536*	527*	528*	547*
Korea, Republic of	542*	552*	548*	537*	538*	550*
Luxembourg	493*	488*	487	501*	492	494*
Mexico	385*	382*	364*	394*	390*	384*
Netherlands	538*	526*	551*	528*	549*	520*
New Zealand	523*	525*	526*	511*	532*	533*
Norway	495*	483*	488	494*	513*	490*
Poland	490	490*	484	492*	494	487*
Portugal	466*	450*	468*	465*	471*	470
Slovak Republic	498*	505*	494	513*	476*	492*
Spain	485	476	481	492*	489	482
Sweden	509*	498*	505*	514*	511*	509*
Switzerland	527*	540*	523*	533*	517*	521*
Turkey	423*	417*	423*	413*	443*	408*
United States	483	472	485	476	491	477
Non-OECD countries						
Brazil	356*	350*	333*	360*	377*	371*
Hong Kong-China	550*	558*	540*	545*	558*	548*
Indonesia	360*	361*	334*	357*	385*	361*
Latvia	483	486	487	482	474*	483
Liechtenstein	536*	538*	540*	534*	523	529*
Macao-China	527*	528*	519*	533*	532*	532*
Russian Federation	468*	474	477	472	436*	479
Serbia and Montenegro	437*	432*	419*	456*	428*	420*
Thailand	417*	424*	405*	415*	423*	425*
Tunisia	359*	359*	337*	364*	363*	345*
Uruguay	422*	412*	417*	430*	419*	411*
United Kingdom[1]	508	496	513	499	520	510

* Significantly different from the United States.

[1] Due to low response rates, data for the United Kingdom are not discussed in this indicator.

NOTE: The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. See *supplemental note 5* for more information on the Program for International Student Assessment (PISA).

SOURCE: U.S. Department of Education, National Center for Education Statistics. (2004). *International Outcomes of Learning in Mathematics Literacy and Problem Solving: PISA 2003 Results From the U.S. Perspective* (NCES 2005–003), tables 2, 3, B-3, and B-12. Data from Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), 2003.

International Comparisons of Mathematics Literacy

Table 13-2. Average male-female score point differences of combined mathematics literacy, subscale, and problem-solving scores of 15-year-old students, by country: 2003

Country	Combined mathematics literacy	Mathematics subscales				Problem-solving
		Space and shape	Change and relationships	Quantity	Uncertainty	
OECD average	**11.1**	**16.7**	**11.0**	**6.2**	**12.6**	**-1.7**
OECD countries						
Australia	5.3	11.9	4.4	1.2	7.3	-6.4
Austria	7.6	18.7	4.6	3.1	7.8	-2.9
Belgium	7.5	17.9	7.6	0.9	7.3	-3.5
Canada	11.2	19.5	13.5	4.7	13.0	0.5
Czech Republic	15.0	30.2	12.8	5.8	16.7	6.5
Denmark	16.6	16.3	20.8	9.3	21.6	4.9
Finland	7.4	2.4	11.4	3.2	12.1	-10.0
France	8.5	17.8	4.4	2.3	10.7	-0.8
Germany	9.0	11.5	11.8	0.6	18.1	-5.7
Greece	19.4	19.3	17.8	22.6	20.2	1.9
Hungary	7.8	15.0	9.7	1.9	7.9	-3.7
Iceland	-15.4	-15.1	-9.6	-28.5	-7.5	-30.5
Ireland	14.8	25.5	12.6	8.9	15.5	0.5
Italy	17.8	18.1	20.8	12.7	24.1	-4.1
Japan	8.4	8.9	6.3	3.1	14.0	-2.4
Korea, Republic of	23.4	27.0	25.3	21.9	21.7	8.1
Luxembourg	17.2	28.3	13.8	8.5	21.7	2.4
Mexico	10.9	15.6	7.9	12.0	4.5	5.1
Netherlands	5.1	8.2	5.9	-4.0	9.5	4.5
New Zealand	14.5	17.9	17.4	11.6	11.5	-3.3
Norway	6.2	7.3	4.3	0.0	10.3	-8.5
Poland	5.6	13.1	7.7	1.6	2.6	-1.1
Portugal	12.2	15.1	13.1	13.8	9.6	0.0
Slovak Republic	18.7	35.0	16.4	12.6	17.0	6.9
Spain	8.9	18.5	8.4	4.8	8.0	-6.0
Sweden	6.5	10.4	1.4	3.2	8.8	-9.9
Switzerland	16.6	25.3	14.9	7.0	20.5	-2.5
Turkey	15.1	11.7	6.0	17.5	19.0	2.0
United States	6.3	15.2	5.6	4.2	3.2	-0.9
Non-OECD countries						
Brazil	16.3	14.9	19.5	18.1	15.4	5.2
Hong Kong-China	4.1	4.1	1.0	-2.6	11.8	-5.1
Indonesia	3.3	15.7	4.3	2.1	-4.8	-7.3
Latvia	2.8	14.0	-1.0	2.9	-0.2	-2.6
Liechtenstein	28.8	38.5	25.6	21.4	30.8	11.5
Macao-China	21.3	23.3	20.1	16.7	17.8	11.2
Russian Federation	10.1	20.6	3.4	6.4	8.4	2.3
Serbia and Montenegro	1.2	3.3	1.4	-3.1	5.4	-7.4
Thailand	-4.0	4.5	-9.6	-4.5	-5.0	-12.4
Tunisia	12.2	16.3	11.3	15.6	6.7	2.7
Uruguay	12.1	21.1	5.2	12.0	8.3	2.7
United Kingdom[1]	6.7	10.3	8.3	2.1	5.6	-8.4

[1] Due to low response rates, data for the United Kingdom are not discussed.

NOTE: The male-female score point difference is calculated by subtracting the average scores of females from the average scores of males. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. See *supplemental note 5* for more information on the Program for International Student Assessment (PISA).

SOURCE: U.S. Department of Education, National Center for Education Statistics. (2004). *International Outcomes of Learning in Mathematics Literacy and Problem Solving: PISA 2003 Results From the U.S. Perspective* (NCES 2005–003), tables B-18, B-20, and B-21. Data from Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), 2003.

International Comparisons of Mathematics Literacy

Table 13-3. Average combined mathematics literacy scores of 15-year-old students, by percentile and country: 2003

Country	5th	10th	25th	75th	90th	95th	90th–10th difference
OECD average	**332**	**369**	**432**	**570**	**628**	**660**	**259**
OECD countries							
Australia	364	399	460	592	645	676	246
Austria	353	384	439	571	626	658	242
Belgium	334	381	456	611	664	693	284
Canada	386	419	474	593	644	673	225
Czech Republic	358	392	449	584	641	672	249
Denmark	361	396	453	578	632	662	236
Finland	406	438	488	603	652	680	214
France	352	389	449	575	628	656	239
Germany	324	363	432	578	632	662	269
Greece	288	324	382	508	566	598	242
Hungary	335	370	426	556	611	644	241
Iceland	362	396	454	578	629	658	233
Ireland	360	393	445	562	614	641	221
Italy	307	342	400	530	589	623	247
Japan	361	402	467	605	660	690	258
Korea, Republic of	388	423	479	606	659	690	236
Luxembourg	338	373	430	557	611	641	239
Mexico	247	276	327	444	497	527	221
Netherlands	385	415	471	608	657	684	241
New Zealand	359	394	455	593	650	682	256
Norway	343	376	433	560	614	645	238
Poland	343	376	428	553	607	640	231
Portugal	321	352	406	526	580	610	228
Slovak Republic	342	379	436	565	619	648	241
Spain	335	369	426	546	597	626	229
Sweden	353	387	446	576	631	662	243
Switzerland	359	396	461	595	652	684	256
Turkey	270	300	351	485	560	614	260
United States	323	357	418	550	607	638	251
Non-OECD countries							
Brazil	203	233	286	419	488	528	255
Hong Kong-China	374	417	485	622	672	700	255
Indonesia	233	261	306	412	466	499	205
Latvia	339	371	424	544	596	626	226
Liechtenstein	362	408	470	609	655	686	247
Macao-China	382	414	467	587	639	668	225
Russian Federation	319	351	406	530	588	622	237
Serbia and Montenegro	299	329	379	493	546	579	218
Thailand	290	316	361	469	526	560	210
Tunisia	229	256	303	412	466	501	210
Uruguay	255	291	353	491	550	583	259
United Kingdom[1]	356	388	444	573	629	659	241

[1] Due to low response rates, data for the United Kingdom are not discussed.

NOTE: Detail may not sum to totals because of rounding. The 90th–10th difference is calculated by subtracting the average scores at the 10th percentile from the average scores at the 90th percentile. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. See *supplemental note 5* for more information on the Program for International Student Assessment (PISA).

SOURCE: U.S. Department of Education, National Center for Education Statistics. (2004). *International Outcomes of Learning in Mathematics Literacy and Problem Solving: PISA 2003 Results From the U.S. Perspective* (NCES 2005–003), table B-4. Data from Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), 2003.

International Comparisons of Mathematics Literacy

Table S13. Standard errors for the average combined mathematics literacy scores of 15-year-olds, by country: 2003

Country	Combined mathematics literacy
OECD average	**0.6**
OECD countries	
Australia	2.1
Austria	3.3
Belgium	2.3
Canada	1.8
Czech Republic	3.5
Denmark	2.7
Finland	1.9
France	2.5
Germany	3.3
Greece	3.9
Hungary	2.8
Iceland	1.4
Ireland	2.4
Italy	3.1
Japan	4.0
Korea, Republic of	3.2
Luxembourg	1.0
Mexico	3.6
Netherlands	3.1
New Zealand	2.3
Norway	2.4
Poland	2.5
Portugal	3.4
Slovak Republic	3.3
Spain	2.4
Sweden	2.6
Switzerland	3.4
Turkey	6.7
United States	2.9
Non-OECD countries	
Brazil	4.8
Hong Kong-China	4.5
Indonesia	3.9
Latvia	3.7
Liechtenstein	4.1
Macao-China	2.9
Russian Federation	4.2
Serbia and Montenegro	3.8
Thailand	3.0
Tunisia	2.5
Uruguay	3.3

SOURCE: U.S. Department of Education, National Center for Education Statistics. (2004). *International Outcomes of Learning in Mathematics Literacy and Problem Solving: PISA 2003 Results From the U.S. Perspective* (NCES 2005–003), table B-3. Data from Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), 2003.

International Comparisons of Mathematics Literacy

Table S13-1. Standard errors for the average combined mathematics literacy, subscales, and problem-solving scores of 15-year-old students, by country: 2003

Country	Combined mathematics literacy	Mathematics subscales				Problem-solving
		Space and shape	Change and relationships	Quantity	Uncertainty	
OECD average	**0.6**	**0.7**	**0.7**	**0.6**	**0.6**	**0.6**
OECD countries						
Australia	2.1	2.3	2.3	2.1	2.2	2.0
Austria	3.3	3.5	3.6	3.0	3.1	3.2
Belgium	2.3	2.3	2.4	2.3	2.2	2.2
Canada	1.8	1.8	1.9	1.8	1.8	1.7
Czech Republic	3.5	4.1	3.5	3.5	3.1	3.4
Denmark	2.7	2.8	3.0	2.6	2.8	2.5
Finland	1.9	2.0	2.2	1.8	2.1	1.9
France	2.5	3.0	2.6	2.5	2.4	2.7
Germany	3.3	3.3	3.7	3.4	3.3	3.2
Greece	3.9	3.8	4.3	4.0	3.5	4.0
Hungary	2.8	3.3	3.1	2.7	2.6	2.9
Iceland	1.4	1.5	1.4	1.5	1.5	1.4
Ireland	2.4	2.4	2.4	2.5	2.6	2.3
Italy	3.1	3.1	3.2	3.4	3.0	3.1
Japan	4.0	4.3	4.3	3.8	3.9	4.1
Korea, Republic of	3.2	3.8	3.5	3.0	3.0	3.1
Luxembourg	1.0	1.4	1.2	1.1	1.1	1.4
Mexico	3.6	3.2	4.1	3.9	3.3	4.3
Netherlands	3.1	2.9	3.1	3.1	3.0	3.0
New Zealand	2.3	2.3	2.4	2.2	2.3	2.2
Norway	2.4	2.5	2.6	2.2	2.6	2.6
Poland	2.5	2.7	2.7	2.5	2.3	2.8
Portugal	3.4	3.4	4.0	3.5	3.4	3.9
Slovak Republic	3.3	4.0	3.5	3.4	3.2	3.4
Spain	2.4	2.6	2.8	2.5	2.4	2.7
Sweden	2.6	2.6	2.9	2.5	2.7	2.4
Switzerland	3.4	3.5	3.7	3.1	3.3	3.0
Turkey	6.7	6.3	7.6	6.8	6.2	6.0
United States	2.9	2.8	3.0	3.2	3.0	3.1
Non-OECD countries						
Brazil	4.8	4.1	6.0	5.0	3.9	4.8
Hong Kong-China	4.5	4.8	4.7	4.2	4.6	4.2
Indonesia	3.9	3.7	4.6	4.3	2.9	3.3
Latvia	3.7	4.0	4.4	3.6	3.3	3.9
Liechtenstein	4.1	4.6	3.7	4.1	3.7	3.9
Macao-China	2.9	3.3	3.5	3.0	3.2	2.5
Russian Federation	4.2	4.7	4.6	4.0	4.0	4.6
Serbia and Montenegro	3.8	3.9	4.0	3.8	3.5	3.3
Thailand	3.0	3.3	3.4	3.1	2.5	2.7
Tunisia	2.5	2.6	2.8	2.8	2.3	2.1
Uruguay	3.3	3.0	3.6	3.2	3.1	3.7
United Kingdom	2.4	2.5	2.5	2.5	2.4	2.4

SOURCE: U.S. Department of Education, National Center for Education Statistics. (2004). *International Outcomes of Learning in Mathematics Literacy and Problem Solving: PISA 2003 Results From the U.S. Perspective* (NCES 2005–003), tables B-3, and B-12. Data from Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), 2003.

International Comparisons of Mathematics Literacy

Table S13-2. Standard errors for the average male-female score point differences of combined mathematics literacy, subscale, and problem-solving scores of 15-year-old students, by country: 2003

Country	Combined mathematics literacy	Mathematics subscales				Problem-solving
		Space and shape	Change and relationships	Quantity	Uncertainty	
OECD average	**0.81**	**0.90**	**0.89**	**0.84**	**0.78**	**0.82**
OECD countries						
Australia	3.75	3.88	3.81	3.67	3.72	3.33
Austria	4.41	5.18	4.99	4.19	4.58	4.34
Belgium	4.81	4.62	5.08	4.66	4.68	4.52
Canada	2.13	2.52	2.29	2.23	2.26	2.06
Czech Republic	5.09	5.68	4.93	5.11	4.63	4.99
Denmark	3.21	3.73	3.50	3.07	3.21	3.20
Finland	2.67	2.96	2.82	2.33	2.63	3.03
France	4.16	4.72	4.97	4.45	4.25	4.14
Germany	4.37	4.69	4.43	4.40	3.97	3.90
Greece	3.63	4.02	4.18	3.99	3.68	4.37
Hungary	3.54	4.04	3.88	3.61	3.34	3.71
Iceland	3.46	3.74	3.79	3.89	3.76	3.90
Ireland	4.19	4.28	4.44	4.28	4.60	4.20
Italy	5.89	6.33	6.27	6.54	5.94	6.01
Japan	5.90	6.35	6.56	5.67	5.69	5.66
Korea, Republic of	6.77	7.96	7.29	6.15	6.62	6.10
Luxembourg	2.80	3.28	3.67	3.17	3.49	3.32
Mexico	3.94	3.84	4.43	4.46	3.51	4.45
Netherlands	4.29	4.28	4.27	4.73	4.10	4.09
New Zealand	3.90	3.89	4.06	3.89	3.93	3.82
Norway	3.21	4.27	3.33	3.32	3.32	3.57
Poland	3.14	3.70	3.63	3.27	3.15	3.13
Portugal	3.31	3.52	3.80	3.27	3.15	3.47
Slovak Republic	3.65	4.48	4.16	3.64	3.49	3.66
Spain	2.98	2.96	3.25	3.07	2.83	3.13
Sweden	3.27	3.52	4.33	3.63	3.66	3.12
Switzerland	4.87	5.57	5.30	4.60	5.16	4.11
Turkey	6.16	5.99	7.25	6.33	5.74	5.83
United States	2.89	3.24	2.90	3.38	2.79	3.03
Non-OECD countries						
Brazil	4.06	4.06	4.71	4.53	3.44	3.70
Hong Kong-China	6.65	6.85	7.16	6.09	6.66	6.27
Indonesia	3.39	2.86	3.45	3.12	2.42	3.01
Latvia	3.97	4.19	3.98	3.43	3.32	4.65
Liechtenstein	10.92	12.13	12.10	9.89	10.46	9.84
Macao-China	5.83	6.76	6.56	6.00	5.88	5.55
Russian Federation	4.36	5.03	5.05	4.43	4.19	4.87
Serbia and Montenegro	4.36	4.88	4.93	4.71	4.25	4.07
Thailand	4.24	4.67	5.06	4.91	4.00	4.33
Tunisia	2.51	3.02	3.01	2.69	2.58	2.57
Uruguay	4.15	3.61	4.38	4.09	4.09	4.77
United Kingdom	4.90	5.04	5.04	4.95	4.87	4.51

SOURCE: U.S. Department of Education, National Center for Education Statistics. (2004). *International Outcomes of Learning in Mathematics Literacy and Problem Solving: PISA 2003 Results From the U.S. Perspective* (NCES 2005–003), tables B-18, B-20, and B-21. Data from Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), 2003.

International Comparisons of Mathematics Literacy

Table S13-3. Standard errors for the average combined mathematics literacy scores of 15-year-old students, by percentile and country: 2003

Country	5th	10th	25th	75th	90th	95th	90th–10th difference
OECD average	**1.3**	**1.1**	**0.9**	**0.7**	**0.7**	**1.0**	**1.3**
OECD countries							
Australia	4.4	3.4	2.8	2.5	3.0	3.5	4.6
Austria	6.6	4.4	4.0	4.2	4.0	5.0	5.9
Belgium	6.5	4.6	3.4	2.5	2.4	2.4	5.2
Canada	3.1	2.5	2.2	2.1	2.6	3.4	3.6
Czech Republic	6.3	5.7	4.6	4.0	4.4	4.9	7.2
Denmark	4.4	4.5	3.7	3.1	3.7	4.7	5.8
Finland	3.8	2.8	2.2	2.3	2.8	3.1	4.0
France	6.0	5.6	3.7	3.0	3.6	3.5	6.6
Germany	6.1	5.7	4.7	3.5	3.5	3.6	6.6
Greece	5.4	5.1	4.6	4.3	5.3	5.1	7.3
Hungary	5.6	4.2	3.0	3.9	4.7	4.6	6.3
Iceland	4.1	2.7	2.8	2.0	3.0	3.8	4.1
Ireland	4.7	3.2	3.4	3.0	3.6	3.3	4.8
Italy	6.4	5.9	4.3	3.0	3.6	3.7	6.9
Japan	8.2	6.3	5.4	4.4	6.1	6.6	8.8
Korea, Republic of	4.6	4.5	3.7	4.2	5.4	6.8	7.0
Luxembourg	3.9	2.7	2.2	1.9	3.2	2.7	4.2
Mexico	5.4	4.7	4.3	4.5	4.7	5.7	6.6
Netherlands	6.9	5.8	5.4	3.8	3.2	3.4	6.7
New Zealand	4.1	3.9	2.9	2.2	3.2	2.9	5.0
Norway	4.0	3.4	2.9	3.3	3.6	3.9	4.9
Poland	5.8	3.6	3.1	2.9	3.3	3.5	4.9
Portugal	6.3	5.3	5.0	3.5	3.3	3.7	6.2
Slovak Republic	6.9	5.8	4.6	3.8	3.5	4.1	6.8
Spain	5.1	3.5	3.0	3.1	3.5	3.7	5.0
Sweden	5.3	4.4	3.0	3.2	3.8	4.8	5.8
Switzerland	4.8	4.2	3.6	4.9	5.2	6.8	6.7
Turkey	5.8	5.0	5.3	8.5	14.2	22.8	15.1
United States	4.9	4.6	3.7	3.4	3.9	5.1	6.0
Non-OECD countries							
Brazil	6.0	5.3	4.6	6.2	9.5	11.3	10.9
Hong Kong-China	11.1	8.0	6.9	3.7	4.1	4.0	9.0
Indonesia	5.2	4.8	3.5	4.8	6.5	7.7	8.1
Latvia	5.9	5.1	3.9	4.7	4.4	5.0	6.8
Liechtenstein	19.7	9.8	7.6	7.9	9.5	16.4	13.6
Macao-China	8.8	6.0	4.4	4.0	5.5	8.3	8.1
Russian Federation	5.5	5.0	4.8	5.0	5.3	6.1	7.2
Serbia and Montenegro	4.4	4.5	4.0	4.8	5.1	5.3	6.7
Thailand	4.0	3.1	2.9	3.8	4.7	6.4	5.6
Tunisia	3.8	3.5	2.6	3.6	4.8	6.8	5.9
Uruguay	4.3	3.8	4.1	3.8	4.4	4.7	5.8
United Kingdom	4.9	4.1	3.2	3.2	3.6	4.8	5.4

SOURCE: U.S. Department of Education, National Center for Education Statistics. (2004). *International Outcomes of Learning in Mathematics Literacy and Problem Solving: PISA 2003 Results From the U.S. Perspective* (NCES 2005–003), table B-4. Data from Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), 2003.